EAST Search History

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|----------|------|---|--|---------------------|---------|------------------|
| L1 | 6359 | shionogi.as. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR . | ON | 2007/11/16 13:47 |
| L2 | . 37 | L1 and asparagine | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/11/16 13:47 |
| L4 | 5 | ((YASUHIRO) near2 (TAKEGAWA)). INV. | US-PGPUB; USPAT; USOCR | OR | ON · | 2007/11/16 13:48 |
| L5 | 25 | ((SHINICHIRO) near2 (NISHIMURA)).INV. | US-PGPUB; USPAT; USOCR | OR | ÓΝ | 2007/11/16 13:48 |
| S4 | 6359 | shionogi.as. | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/11/16 13:47 |
| S5 | 336 | S4 and (saccharide or sugar or asparagine or disaccharide or trisaccharide) | US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2007/11/14 16:01 |

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                 Zentralblatt
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        NOV 15 Derwent Indian patent publication number format enhanced
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FULL ESTIMATED COST

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=>Testing the current file.... screen

ENTER SCREEN EXPRESSION OR (END): end

=> screen 1839

L7 SCREEN CREATED

=> screen 1840

L8 SCREEN CREATED

Uploading C:\Program Files\Stnexp\Queries\10584065\mannose disaccharide.str

chain nodes :

7 14 15 16 17 18 19 20 21 22 23

ring nodes :

1 2 3 4 5 6 8 9 10 11 12 13

chain bonds :

1-17 2-16 3-14 5-7 6-18 7-8 9-19 11-21 12-22 13-23 14-15 19-20

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 8-9 8-13 9-10 10-11 11-12 12-13

exact/norm bonds :

exact bonds :

3-14 9-19

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom 13:Atom 14:CLASS 15:CLASS 16:CLASS 17:CLASS 18:CLASS 19:CLASS 20:CLASS 21:CLASS 22:CLASS 23:CLASS

STRUCTURE UPLOADED L9

=> que L9 AND L7 NOT L8

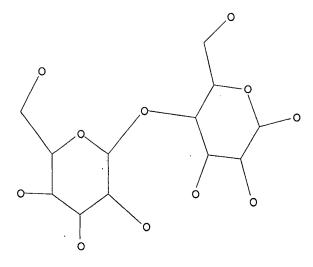
L10 QUE L9 AND L7 NOT L8

=> d

L10 HAS NO ANSWERS

SCR 1839 L7 L8 SCR 1840

L9 STR



Structure attributes must be viewed using STN Express query preparation. L10 QUE ABB=ON PLU=ON L9 AND L7 NOT L8

50 ANSWERS

=> s 110

SAMPLE SEARCH INITIATED 10:22:36 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 307 TO ITERATE

100.0% PROCESSED 307 ITERATIONS

INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**

BATCH **COMPLETE**

PROJECTED ITERATIONS: 5089 TO 7191

PROJECTED ANSWERS: 2671 TO 4249

L11 50 SEA SSS SAM L9 AND L7 NOT L8

=> s 110 full

FULL SEARCH INITIATED 10:22:41 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 6047 TO ITERATE

100.0% PROCESSED 6047 ITERATIONS 3247 ANSWERS

SEARCH TIME: 00.00.01

L12 3247 SEA SSS FUL L9 AND L7 NOT L8

=>Testing the current file.... screen

ENTER SCREEN EXPRESSION OR (END):end

=> screen 1840

L13 SCREEN CREATED

=> screen 1841

L14 SCREEN CREATED

Uploading C:\Program Files\Stnexp\Queries\10584065\trisaccharide 2.str

chain nodes : 7 14 15 16 17 18 19 20 21 22 23 30 31 32 33 ring nodes : 1 2 3 4 5 6 8 9 10 .11 12 13 24 25 26 27 28 chain bonds : 1-17 2-16 3-14 5-7 6-18 7-8 9-19 11-21 12-22 13-23 14-15 19-20 24-32 26-30 28-33 29-34 30-31 ring bonds : 1-2 1-6 2-3 3-4 4-5 5-6 8-9 8-13 9-10 10-11 11-12 12-13 24-25 24-29 25-26 26-27 27-28 28-29 exact/norm bonds : 1-2 1-6 1-17 2-3 2-16 3-4 4-5 5-6 5-7 6-18 7-8 8-9 8-13 9-10 10-11 11-12 11-21 12-13 12-22 13-23 14-15 19-20 21-25 24-29 24-25 24-32 25-26 26-27 27-28 28-29 28-33 29-34 30-31 exact bonds : 3-14 9-19 26-30

Match level :

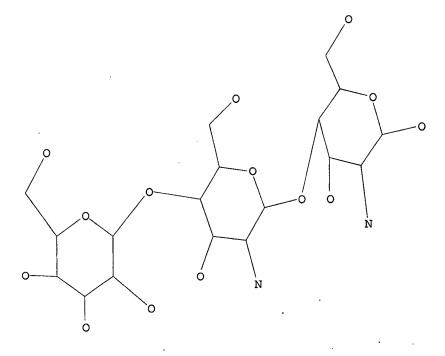
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:CLASS 8:Atom 9:Atom 10:Atom 11:Atom 12:Atom 13:Atom 14:CLASS 15:CLASS 16:CLASS 17:CLASS 18:CLASS 19:CLASS 20:CLASS 21:CLASS 22:CLASS 23:CLASS 24:Atom 25:Atom 26:Atom 27:Atom 28:Atom 29:Atom 30:CLASS 31:CLASS 32:CLASS 33:CLASS 34:CLASS

L15 STRUCTURE UPLOADED

=> que L15 AND L13 NOT L14

L16 QUE L15 AND L13 NOT L14

=> d L16 HAS NO ANSWERS L13 SCR 1840 L14 SCR 1841 L15 STR



Structure attributes must be viewed using STN Express query preparation. L16 QUE ABB=ON PLU=ON L15 AND L13 NOT L14

3 ANSWERS

=> s 116

SAMPLE SEARCH INITIATED 10:24:21 FILE 'REGISTRY'

SAMPLE SCREEN SEARCH COMPLETED - 72 TO ITERATE

100.0% PROCESSED 72 ITERATIONS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE **COMPLETE**

BATCH **COMPLETE**

PROJECTED ITERATIONS: 931 TO 1949
PROJECTED ANSWERS: 3 TO 163

L17 3 SEA SSS SAM L15 AND L13 NOT L14

=> s l16 full

FULL SEARCH INITIATED 10:24:25 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 1421 TO ITERATE

100.0% PROCESSED 1421 ITERATIONS 32 ANSWERS

SEARCH TIME: 00.00.01

L18 32 SEA SSS FUL L15 AND L13 NOT L14

=> d his

(FILE 'HOME' ENTERED AT 10:21:39 ON 16 NOV 2007)

FILE 'REGISTRY' ENTERED AT 10:21:43 ON 16 NOV 2007

L1 SCREEN 1840 L2 SCREEN 1841

L3 STRUCTURE UPLOADED

L4 QUE L3 AND L1 NOT L2

L5 0 S L4 L6 0 S L4 FULL L7 SCREEN 1839 L8 SCREEN 1840 STRUCTURE UPLOADED L9 L10 QUE L9 AND L7 NOT L8 50 S L10 L11 3247 S L10 FULL L12L13 SCREEN 1840 L14 SCREEN 1841 STRUCTURE UPLOADED L15 L16 QUE L15 AND L13 NOT L14 3 S L16 L17 32 S L16 FULL L18

=> file caplus

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FULL ESTIMATED COST

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=> s 118 and 112

44 L18

50716 L12

. 4 L18 AND L12 L19

=> d l19 1-4 ibib abs hitstr

L19 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION · NUMBER : 2001:735898 CAPLUS

DOCUMENT NUMBER:

TITLE: Microbial Glycosyltransferases for Carbohydrate

Synthesis: α -2,3-Sialyltransferase from

Neisseria gonorrheae

AUTHOR (S): Izumi, Masayuki; Shen, Gwo-Jenn; Wacowich-Sgarbi,

Shirley; Nakatani, Takuji; Plettenburg, Oliver; Wong,

517.20

517.41

Chi-Huey

CORPORATE SOURCE: Department of Chemistry and the Skaggs Institute for

Chemical Biology, The Scripps Research Institute, La

Jolla, CA, 92037, USA

SOURCE: Journal of the American Chemical Society (2001),

123(44), 10909-10918

CODEN: JACSAT; ISSN: 0002-7863

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 136:53977

AB The α -2,3-sialyltransferase from Neisseria gonorrheae was overproduced in E. coli for exploitation of its substrate specificity and synthetic utility. Several potential acceptor substrates were synthesized in this study, including mono- and oligosaccharides, glycolipids, and glycopeptides and their sulfate derivs. Some CMP-sialic acid derivs. with modification at the C-5 position were also prepared for evaluation as donor substrates. It was found that the enzyme exhibits a broader acceptor substrate specificity when compared to other sialyltransferases, though the donor specificity is quite limited. Application of the enzyme to the preparative synthesis of representative sialyl glycoconjugates has been demonstrated. On the basis of this work and the work of others, this enzyme is the most versatile and synthetically useful among all sialyltransferases known to date, especially for the synthesis of

sulfate-containing

glycoconjugates.

IT 125712-73-4P

RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)

(preparation of mono-, oligosaccharides, glycopeptides, glycolipids, and glycoconjugates as acceptor substrates for $\alpha\text{--}2,3\text{--}$

sialyltransferase from Neisseria gonorrhoeae)

RN 125712-73-4 CAPLUS

CN Octadecanamide, N-[(1S,2R,3E)-1-[[(4-O- β -D-galactopyranosyl- β -D-glucopyranosyl)oxy]methyl]-2-hydroxy-3-heptadecenyl]- (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.

Me
$$(CH_2)_{16}$$
 NH OH OH OH OH OH OH OH

IT 63-42-3 52211-61-7 106256-81-9 122759-52-8 301844-03-1 381716-64-9

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of mono-, oligosaccharides, glycopeptides, glycolipids, and glycoconjugates as acceptor substrates for α -2,3-sialyltransferase from Neisseria gonorrhoeae)

RN 63-42-3 CAPLUS

CN D-Glucose, 4-O-β-D-galactopyranosyl- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

RN 52211-61-7 CAPLUS CN β -D-Glucopyranoside, 2-propen-1-yl 4-O- β -D-galactopyranosyl-(CA INDEX NAME)

Absolute stereochemistry.

RN 106256-81-9 CAPLUS CN α -D-Glucopyranose, 4-O-(2,3,4,6-tetra-O-acetyl- β -D-galactopyranosyl)-, 2,3,6-triacetate 1-(2,2,2-trichloroethanimidate) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

RN 122759-52-8 CAPLUS CN β -D-Glucopyranoside, octadecyl 4-O- β -D-galactopyranosyl- (9CI) (CA INDEX NAME)

RN 301844-03-1 CAPLUS

CN D-Glucose, O- β -D-galactopyranosyl-(1 \rightarrow 4)-O-2-(acetylamino)-2-deoxy- β -D-glucopyranosyl-(1 \rightarrow 4)-O-2-(acetylamino)-2-deoxy- β -D-glucopyranosyl-(1 \rightarrow 4)-2-(acetylamino)-2-deoxy-, 6-(hydrogen sulfate) (CA INDEX NAME)

Absolute stereochemistry.

RN 381716-64-9 CAPLUS

CN Carbamic acid, [(1S,2R,3E)-1-[[(4-O- β -D-galactopyranosyl- β -D-glucopyranosyl)oxy]methyl]-2-hydroxy-3-heptadecenyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

Double bond geometry as shown.

REFERENCE COUNT:

THERE ARE 80 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

80

ACCESSION NUMBER: 1998:552279 CAPLUS

DOCUMENT NUMBER: 129:231079

TITLE: Synthesis and functions of a glycopolymer carrying

 $Gal\beta1\rightarrow4$ (GlcNAc) 3 tetrasaccharide

AUTHOR(S): Kobayashi, Kazukiyo; Kamiya, Shoko; Matsuyama, Minoru;

Murata, Takeomi; Usui, Taichi

CORPORATE SOURCE: Graduate School of Engineering, Nagoya University,

Nagoya, 464-8603, Japan

SOURCE: Polymer Journal (Tokyo) (1998), 30(8), 653-658

CODEN: POLJB8; ISSN: 0032-3896

PUBLISHER: Society of Polymer Science, Japan

DOCUMENT TYPE: Journal LANGUAGE: English

Tetrasaccharide $Gal\beta1\rightarrow 4$ (GlcNAc) 3 was synthesized from N,N',N''-triacetylchitotriose (GlcNAc) 3 and lactose using transglycosylation with a β -D-galactosidase from Bacillus circulans. The reducing terminal of $Gal\beta1\rightarrow 4$ (GlcNAc) 3 was oxidized and connected to p-vinylbenzylamine via amide linkage, and the resulting oligosaccharide-substituted styrene monomer was polymerized with the radical initiator, 2,2'-azobis(2-amidinopropane) dihydrochloride at 60°C. Glycopolystyrene was found to bind strongly with wheat germ agglutinin and

tomato (Lycopersicon esculentum) agglutinin by inhibition of

hemagglutination and double diffusion.

IT 83143-51-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(intermediate for monomer; synthesis and agglutinin binding of glycopolystyrene carrying $Gal\betal \rightarrow 4$ (GlcNAc)3 tetrasaccharide)

RN 83143-51-5 CAPLUS

CN D-Glucose, O-β-D-galactopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-O-2-(acetylamino)-2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-2-deoxy-(9CI) (CA INDEX NAME)

Absolute stereochemistry.

IT 63-42-3, Lactose

RL: RCT (Reactant); RACT (Reactant or reagent)

(starting material for monomer; synthesis and agglutinin binding of glycopolystyrene carrying $Gal\betal \rightarrow 4$ (GlcNAc)3 tetrasaccharide)

RN 63-42-3 CAPLUS

CN D-Glucose, 4-O-β-D-galactopyranosyl- (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1994:701191 CAPLUS

DOCUMENT NUMBER: 121:301191

TITLE: Enzymic synthesis of the trisaccharide core region of

the carbohydrate chain of N-glycoprotein

AUTHOR(S): Usui, Taichi; Suzuki, Masahiro; Sato, Toshinari;

Kawagishi, Hirokazu; Adachi, Kyoko; Sano, Hiroshi

CORPORATE SOURCE: Fac. Agric., Shizuoka Univ., Shizuoka, 422, Japan

SOURCE: Glycoconjugate Journal (1994), 11(2), 105-10

CODEN: GLJOEW; ISSN: 0282-0080

DOCUMENT TYPE: Journal LANGUAGE: English

OTHER SOURCE(S): CASREACT 121:301191

Transmannosylation from mannotriose (Man β 1-4Man β 1-4Man) to the 4-position at the nonreducing end N-acetylglucosaminyl residue of N,N'-diacetylchitobiose was regioselectively induced through the use of β -D-mannanase from Aspergillus niger. The enzyme formed the trisaccharide Man β 1-4GlcNAc β 1-4GlcNAc (3.7% of the enzyme-catalyzed net decrease of N,N'-diacetylchitobiose) from mannotriose as a donor and N,N'-diacetylchitobiose as an acceptor. Mannobiose (Man β 1-4Man) was also shown to be useful as a donor substrate for the desired trisaccharide synthesis.

IT 159266-33-8P 159266-34-9P

RL: BPN (Biosynthetic preparation); BIOL (Biological study); PREP (Preparation)

(mannanase regioselective transmannosidation of oligosaccharides)

RN 159266-33-8 CAPLUS

CN β -D-Glucopyranose, O- β -D-mannopyranosyl- $(1\rightarrow 4)$ -O-2-

(acetylamino) -2-deoxy-β-D-glucopyranosyl-(1→4)-2-(acetylamino)-

2-deoxy- (CA INDEX NAME)

RN 159266-34-9 CAPLUS CN α -D-Glucopyranose, O- β -D-mannopyranosyl-(1 \rightarrow 4)-O-2-(acetylamino)-2-deoxy- β -D-glucopyranosyl-(1 \rightarrow 4)-2-(acetylamino)-2-deoxy- (CA INDEX NAME)

Absolute stereochemistry.

L19 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:

1992:57579 CAPLUS

DOCUMENT NUMBER:

116:57579

TITLE:

Oligosaccharide compositions and their manufacture

with β-galactosidase

INVENTOR(S):

Usui, Yasuichi; Sakai, Kazuo; Katsumi, Ryosuke; Nanjo,

Fumio; Ishikawa, Masato

PATENT ASSIGNEE(S):

Yaizu Suisan Kagaku Kogyo K. K., Japan

SOURCE:

Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DOCUMENT TYPE:

HAGE: Jan

LANGUAGE:

Patent Japanese

FAMILY ACC. NUM. COUNT:

PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------------------|------|----------|-----------------|----------|
| | | | | · |
| JP 03175990 | A | 19910731 | JP 1989-314333 | 19891205 |
| JP 2927845 | B2 | 19990728 | | |
| PRIORITY APPLN. INFO.: | | | JP 1989-314333 | 19891205 |

Oligosaccharide compns. containing $Gal\beta(1\rightarrow 4)$ [GlcNAc]n (I; Gal=galactose residue; GlcNAc=N-acetylglucosamine residue; n=2-6) are manufactured by treating lactoses and N-acetyl chitooligosaccharides with β -galactosidase. The compns. are useful as bifidus factors. An aqueous solution containing 0.9 g lactose and 2.1 g di-N-acetylchitobiose was treated with Biolacta (β -galactosidase from Bacillus circulans) at 30° for 30 h to produce I (n=2).

IT 138661-71-9P

RL: BMF (Bioindustrial manufacture); BIOL (Biological study); PREP (Preparation)

(manufacture of, with β -galactosidase, from lactoses and acetylchitooligosaccharides)

RN 138661-71-9 CAPLUS

CN D-Glucose, $O-\beta$ -D-galactopyranosyl- $(1\rightarrow 4)$ -O-2-(acetylamino)-2-deoxy-D-glucopyranosyl- $(1\rightarrow 4)$ -O-2-(acetylamino)-2-deoxy-D-glucopyranosyl- $(1\rightarrow 4)$ -2-(acetylamino)-2-deoxy- (CA INDEX NAME)

IT 63-42-3, Lactose

RL: BIOL (Biological study)

(oligosaccharide compns. manufacture from acetylchitooligosaccharides and,

with β -galactosidase)

63-42-3 CAPLUS RN

D-Glucose, 4-O- β -D-galactopyranosyl- (CA INDEX NAME) CN

Absolute stereochemistry. Rotation (+).

=> FIL STNGUIDE SINCE FILE COST IN U.S. DOLLARS TOTAL ENTRY SESSION FULL ESTIMATED COST 22.02 539.43 DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) SINCE FILE TOTAL ENTRY SESSION -3.12 -3.12

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| COST IN U.S. DOLLARS | SINCE FILE ENTRY | TOTAL SESSION |
|--|---------------------|------------------|
| FULL ESTIMATED COST | 0.72 | 540.15 |
| DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) | SINCE FILE ENTRY | TOTAL SESSION |
| CA SUBSCRIBER PRICE | 0.00 | -3.12 |

STN INTERNATIONAL LOGOFF AT 10:32:35 ON 16 NOV 2007